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Adina Oprisan* (aoprisan@barry.edu) and **Andrzej Korzeniowski**. *Large deviations for additive functionals of Markov processes and applications.*

In this talk I consider a family of stochastic additive functionals of Markov processes switched by jump Markov processes subject to the effect of small random perturbations. Random perturbations arising in connection with averaging principle as well as with those leading to diffusion processes are discussed. I will present asymptotic properties of the type of law of large numbers, central limit theorems, almost sure central limit theorems and large deviations along with examples and applications. (Received January 26, 2015)